

Composite Risk Management

- The need for this idea: where are we getting hurt or killed?
- Culture: now & new
- Obstacles to change
- Moving toward CRM

Combat vs. Accidents

Combat Losses / Accidents

Spanish-American 15% / 85%

WWI 47% / 53%

WWII 43% / 56%

Korea 55% / 44%

Vietnam 45% / 54%

DS/DS 20% / 75%

OEF 45% / 26%

OIF 75% / 21%

Composite Loss



Worker Losses

- 5,500 occupational fatalities (2003)
- 43,000 vehicular deaths (2003)
- Other accidental deaths (2000)
 - 13,300 from falls
 - 12,750 from poisoning
 - 5,650 from suffocation
 - 3,500 from drowning
- Intentional
 - 29,350 suicides
 - 16,750 homicides

Injuries Needing Medical Treatment

- 23,661,000 in 2002 (out of U.S. population of 278,000,000) – mostly away from work

- Major categories

— Falls.....	7,100,000
— Transportation.....	3,700,000
— Struck by person or object.....	3,700,000
— Overexertion.....	3,100,000
— Cutting, piercing.....	1,700,000
— Other.....	3,700,000

Injuries Needing Medical Treatment

■ When the injuries occur

— Leisure activities.....	5,500,000
— Sports.....	3,700,000
— At work.....	3,600,000
— Driving.....	2,700,000
— Home maintenance.....	2,600,000
— At school.....	800,000
— Other.....	4,800,000
(housework, cooking, eating, shopping)	

CRM → READINESS

- Dead is dead; injured is injured
- People are unit assets 24/7
- People = Soldiers, civilians, contractors

Culture NOW

- Old safety= regs dictate job, checklists, compliance, limits, what you can't do
- Attention is on the main mission, not on periphery or off duty
- Compartmentalized thinking
- Result: mission accomplished, yet losing people or equipment “unexpectedly”

Current Culture: Example

■ When is a Soldier not a Soldier?

- Soldier finishes big training exercise safely
- 4 hours sleep, followed by day of errands
- Unit cook-out @ 1700 (with alcohol), then @ 1930 drive 30 miles to club in town
- More drinking (8+ beers), 2 sets of buddies
- Stumbles around bar as buddies watch; leaves bar after curfew
- Dead within 30 minutes (rollover mishap)

Compartmentalized Thinking

- AR 385-10 functions & responsibilities drive our efforts (not risks)
- Deployed vs. in garrison, tactical vs. accidental, on duty vs. off duty (we are too segmented)

Ignoring The Periphery

- Do our “To Do” lists at home, include any of the following?
 - Chemicals: solvents, cleaners, combustibles
 - Brute force & sharp edges: knives, saws, scissors, drills, hammers; spring-loaded things
 - Heat: stoves, irons, fireplaces, grills
 - Weight or height: lifting, moving, climbing
 - Electricity: light fixtures, plugs, switches, cords
 - High velocity projectiles: mowing, weed whacking
 - Moving steel vs. flesh: parking lots, intersections, two-lane roads

Culture NEW

- A loss is a loss
 - Tactical (threat-based), accidental (hazard-based), or even medical, suicide, homicide
 - Terrorist or To Do list: Focus on what can kill you
- Can vs. Can't (can perform aggressively)
 - Holistic analysis of hazards & dangers
 - Controls to reduce or eliminate these
 - Manage resources, enhance readiness (not just “be safe”); produces confident, bold actions
- Everyone matters, all the time

**Tactical,
threat-based
risk management**

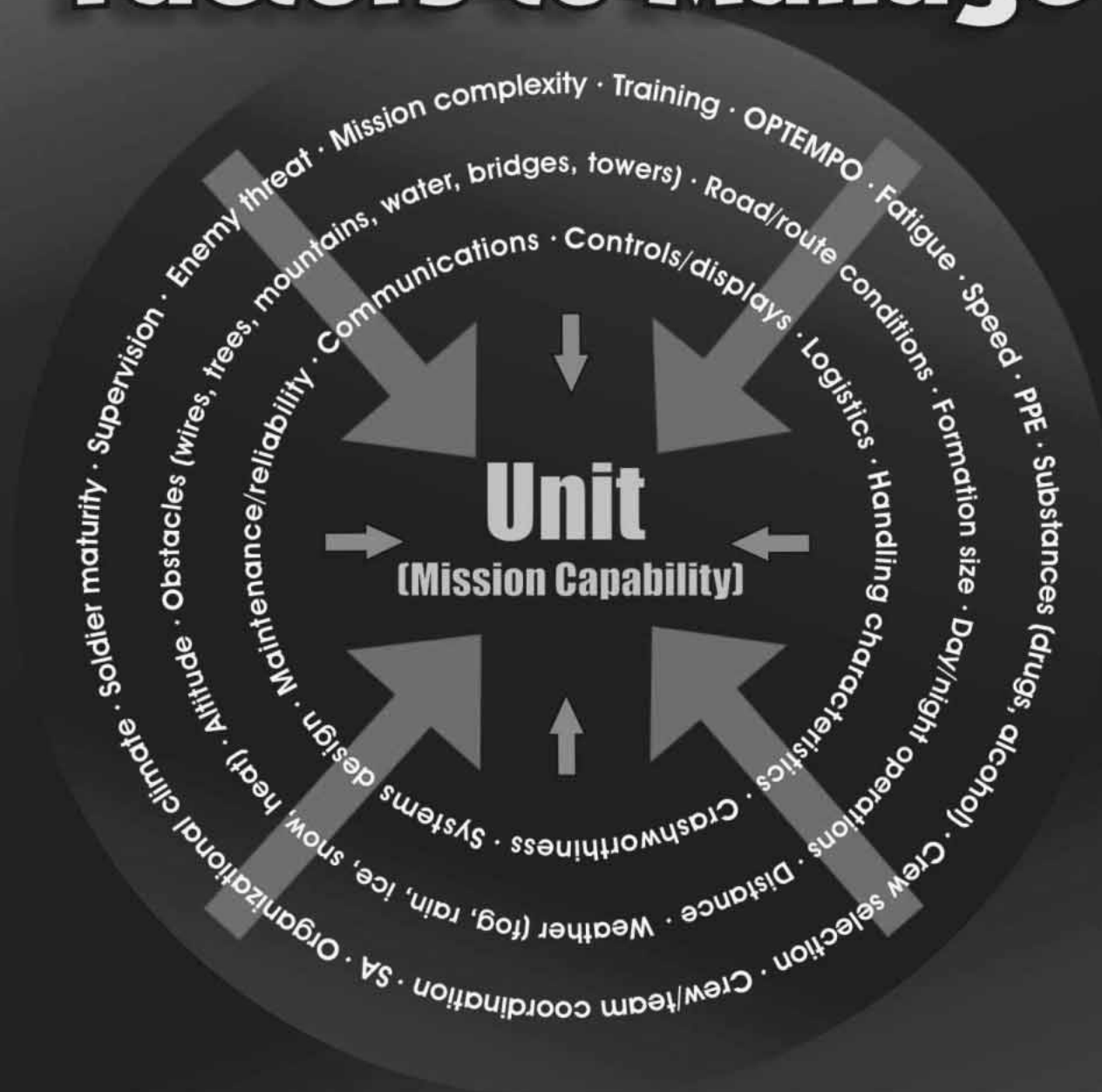
**Accidental,
hazard-based
risk management**

**Composite
Risk Management**

- Enemy
- Environment
- Materiel/system
- Human

“What’s going to kill me & my buddies?”

Factors to Manage



Obstacles To Transforming

- The safety tradition (compliance mentality, i.e., I have inspections & checklists to do, as opposed to I have risks I need to ID & control)
- Emphasis on things outside of one's control:
a threat-based propensity
- Discounting factors supposedly within one's control
 - They are familiar, plus I steer my own fate
 - Human error happens occasionally, & when it does, it happens to others, not me

Obstacles To Transforming

- Lean, mean, risk-taking machines
- Focus is on the main operation & ignore elsewhere
 - Periphery is less sexy so I ignore it
 - No one has the right to tell me how to live my life
- We don't understand cultural change
 - It's an attitude & motivation thing
 - Need buy-in & commitment: WIIFM?
 - Takes time & consistent messages

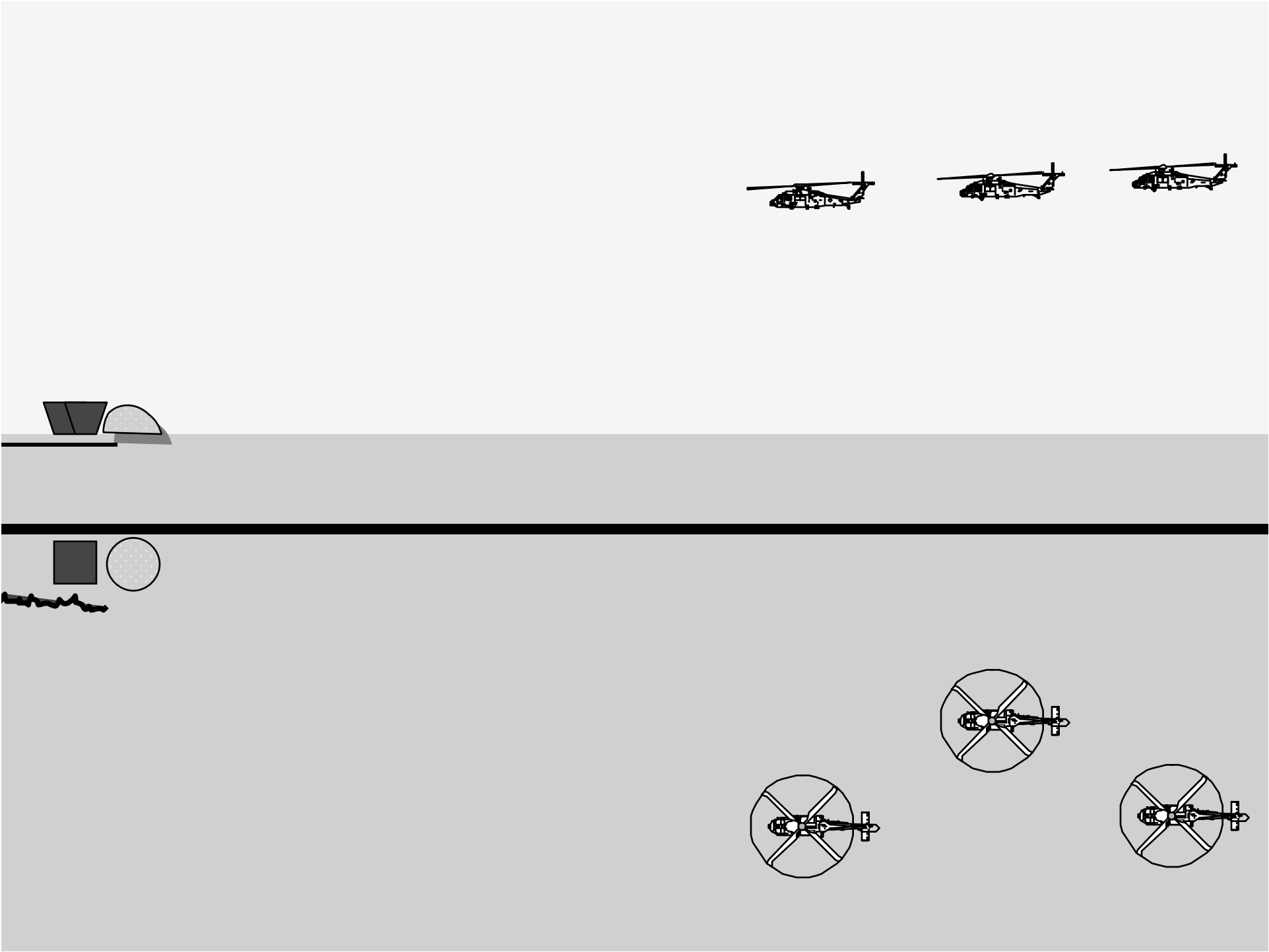
Transformed Thinking

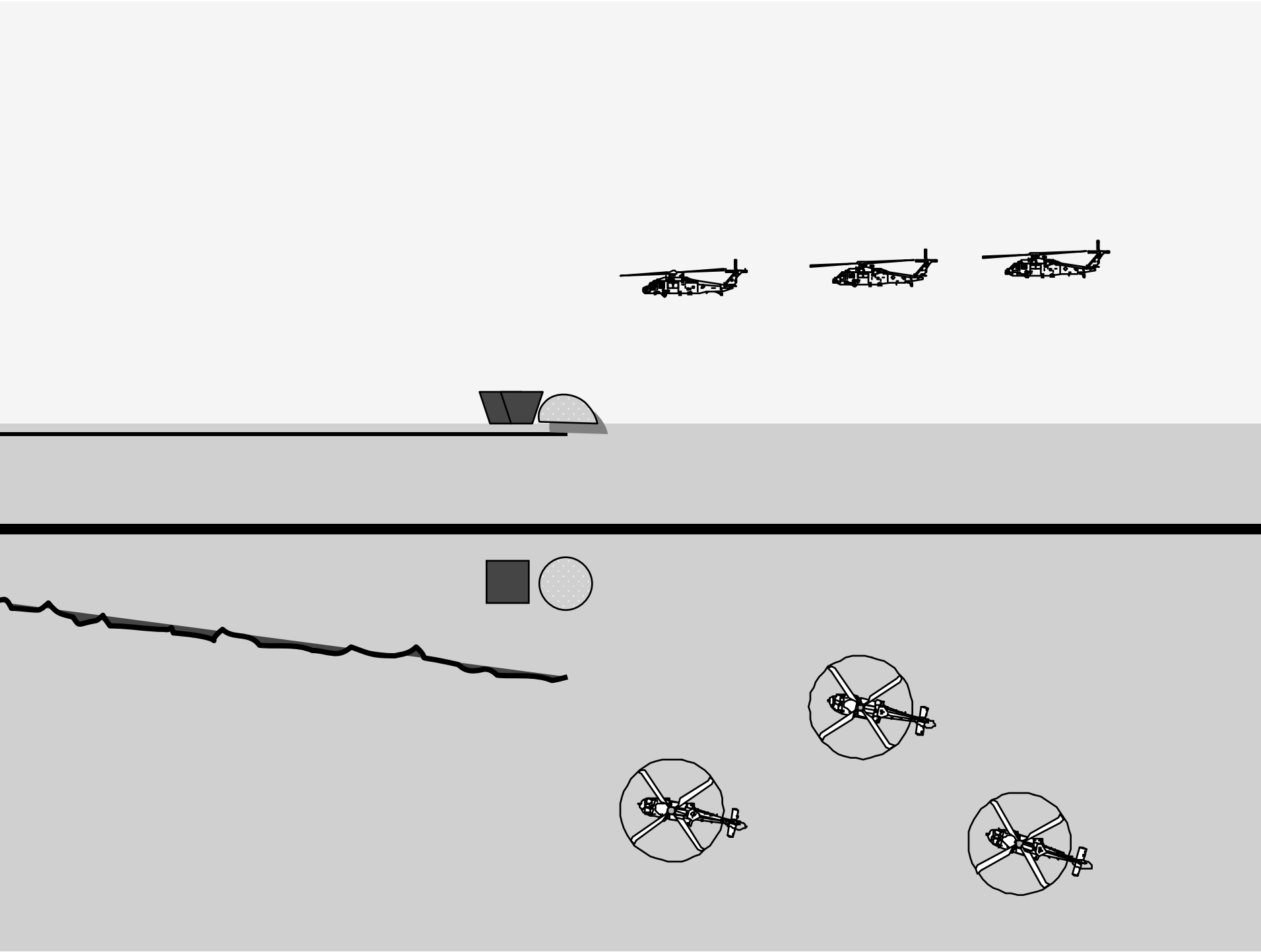
- Human error is real, is powerful, & no one is immune
 - We all make mistakes
 - Human error causes 9 out of 10 mishaps
 - If you're OK right now, who else may not be?
- CAN still be a lean, mean, fighting machine
 - Risk managed to project combat power forward
 - Enables aggressive yet protected Soldier

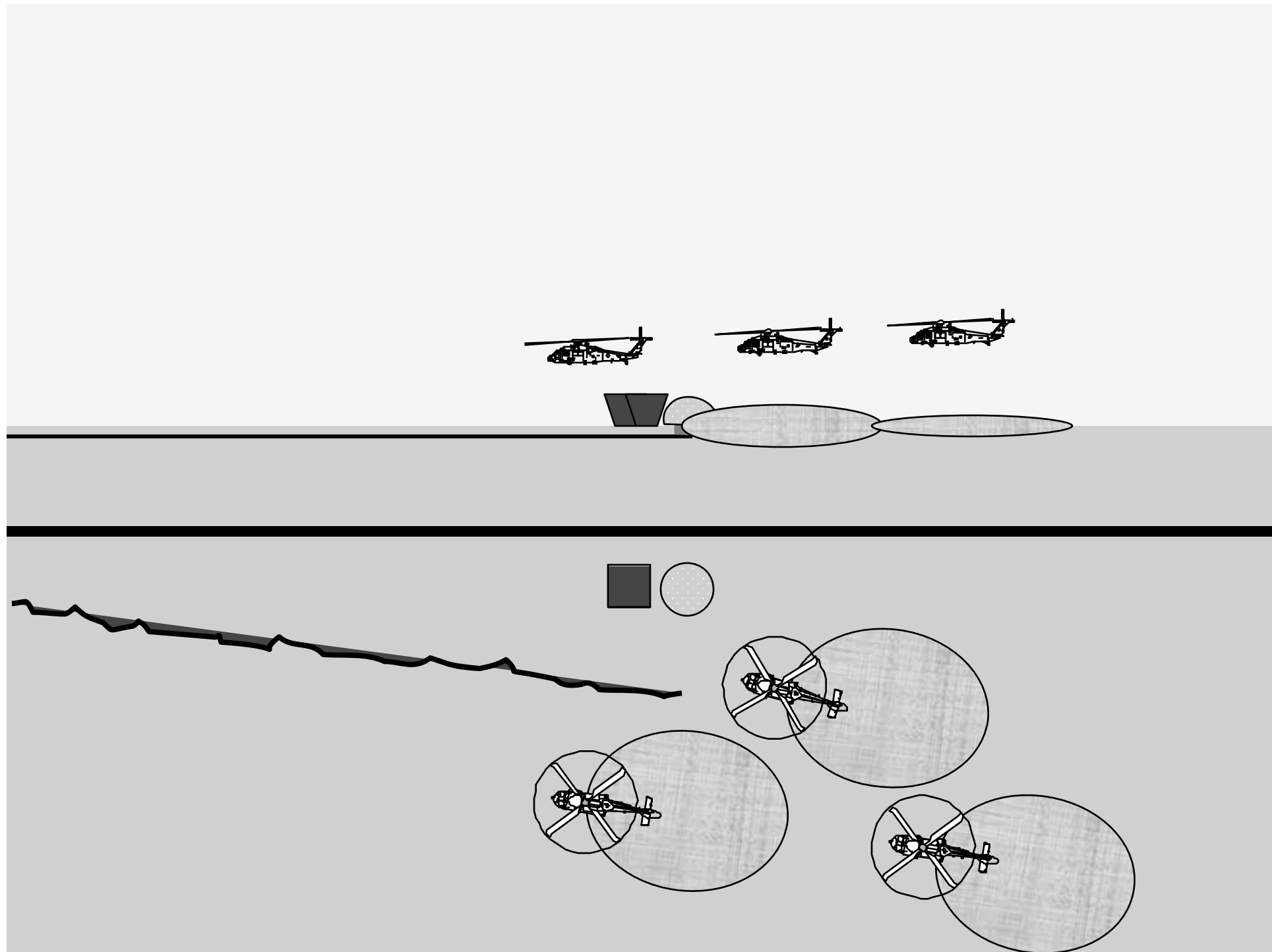
READINESS

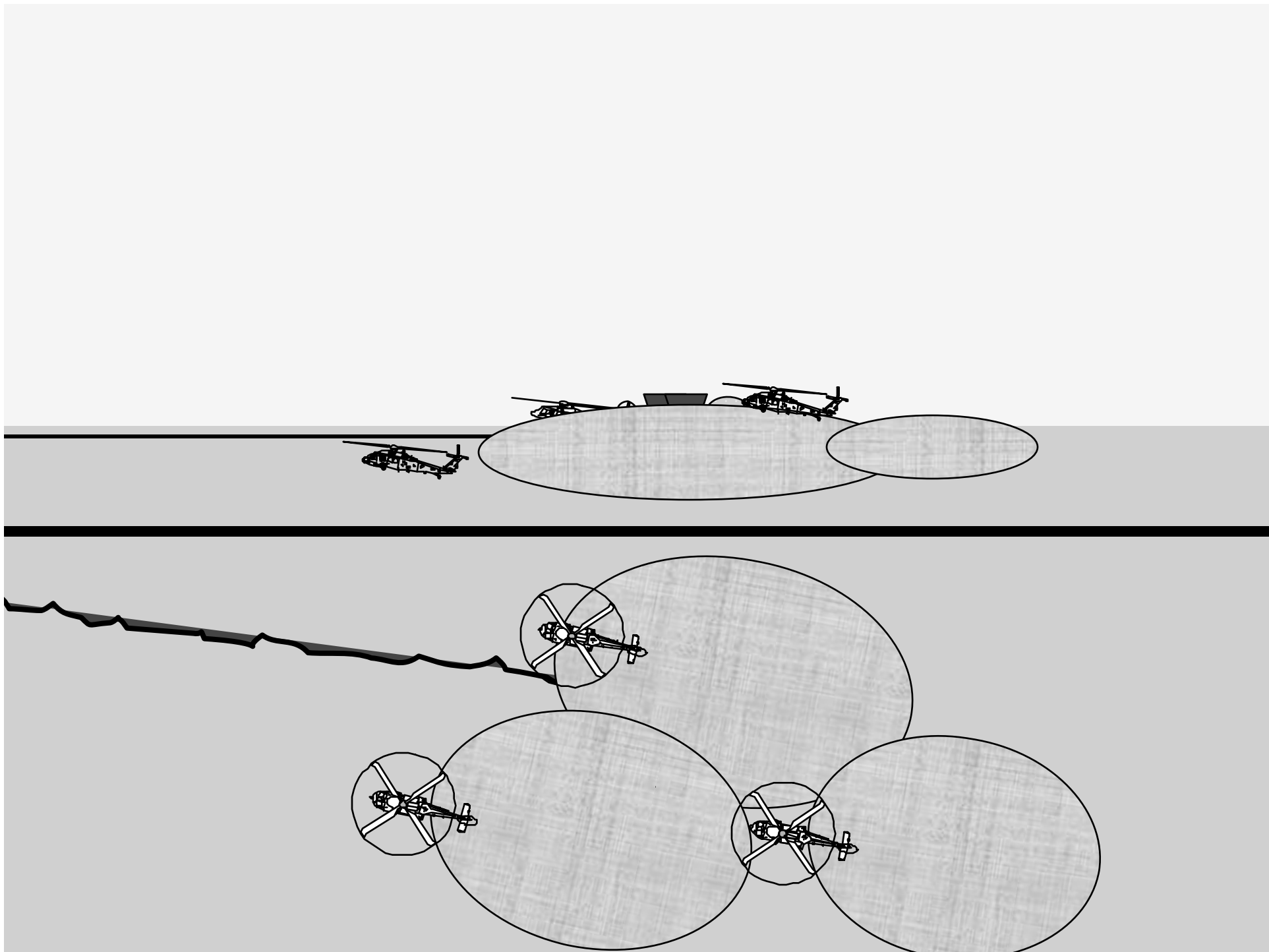
Transformed Approach

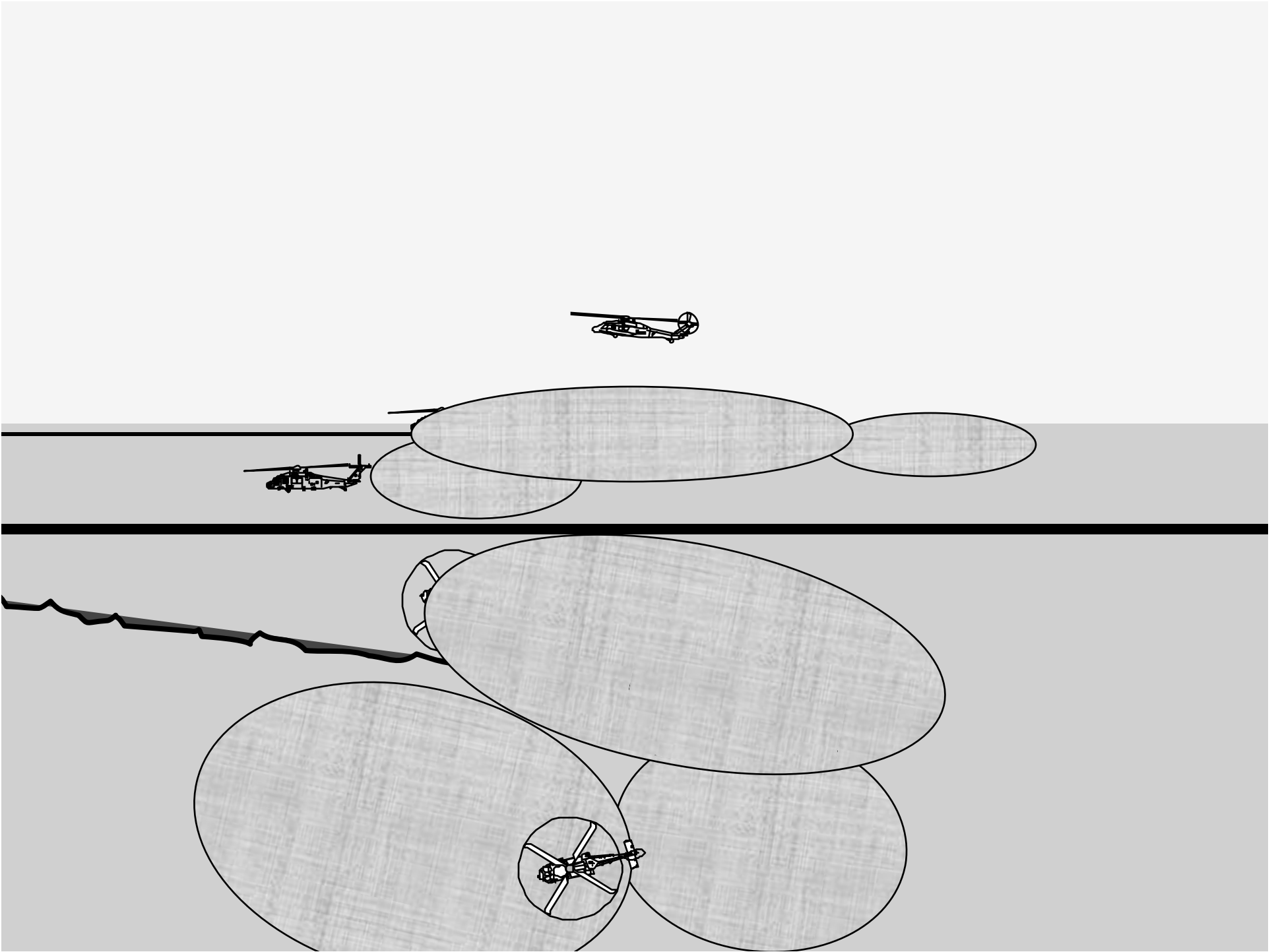
- Composite risk assessment means new perspectives on hazards
 - Increased awareness to ID all the dangers
 - Goes beyond METT-TC & formal MDMP
- Risk assessment is more comprehensive
 - Sequences (before-during-after)
 - Cumulative effects, interaction with time
 - Trade-offs
 - Synergy: $1 + 1 = 3$

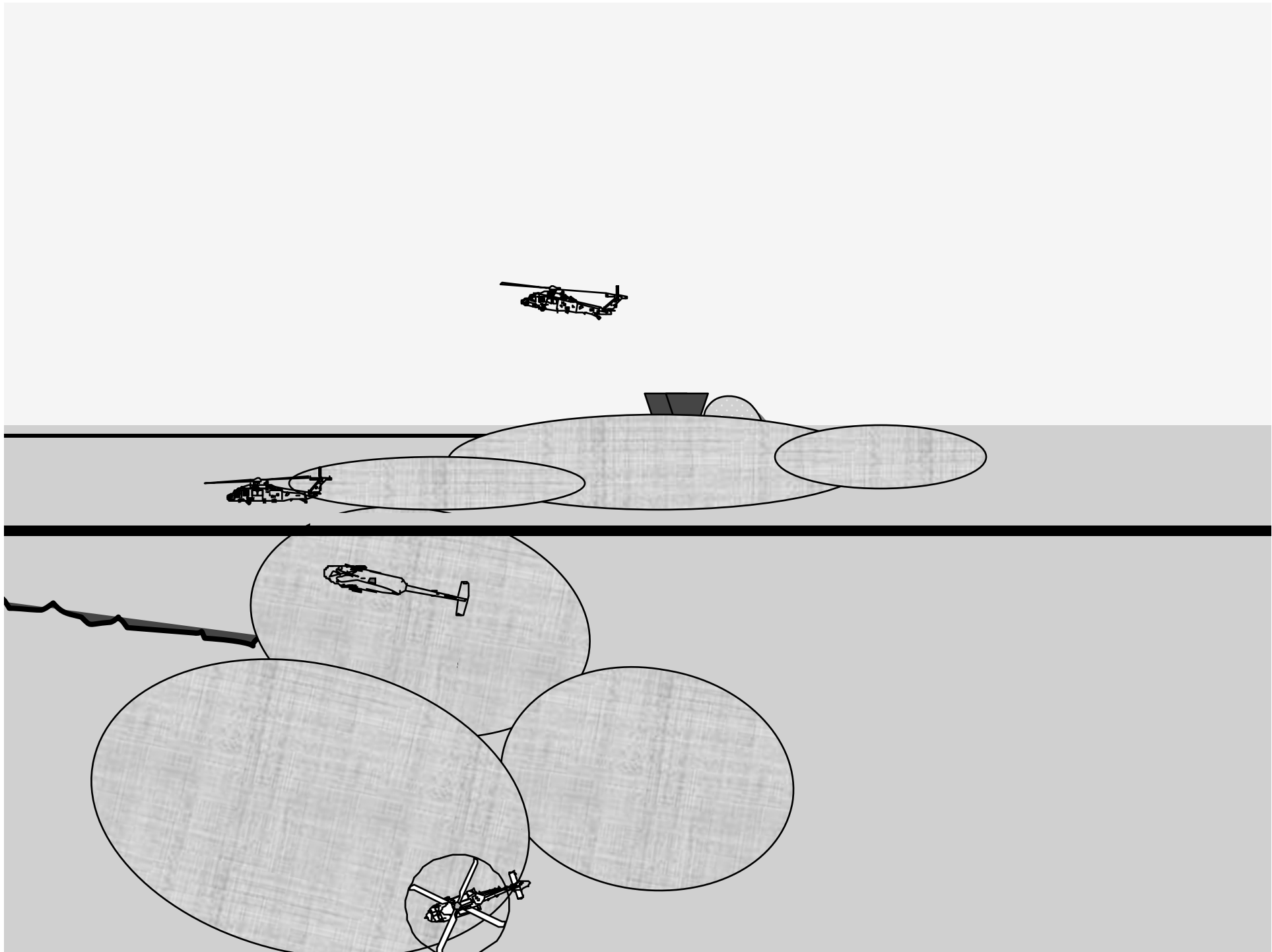














Transformed Approach

- Composite risk management means managing assets 24/7
- Unit works together to keep readiness high
 - Leaders manage preservation as part of power
 - Followers understand & help, not hinder

Transformed Actions

■ Hazard ID expands

- Ask “What can kill me or my buddies?”
- Ask “What can hurt me or my buddies?”
- Ask “Who can kill/hurt me or my buddies?”
- Consider more human error (refer to HFACS)
- Include acts of omission as well as commission
- Get Soldiers involved in hazard ID
- Look at the periphery, the before/after for the task, & off duty . . . 24/7
- Expand your sources of information: higher HQ, CALL, peers, safety experts, independent set of eyes, publications, website tools, grapevine

Hazard ID

- Hazards currently on the radar screen
 - IEDs, RPGs
 - High center of gravity, models of a system
 - Dust, fog, night, wires, inadequate road surfaces (interact with vehicle weight & width, or rain)
 - “Human hazards”: inexperience, indiscipline, immaturity, carelessness, complacency, overconfidence, inattention, speed, fatigue, negative habit transfer, alcohol, poor planning, poor leadership, poor supervision, standards or procedures not enforced, hands off attitude, making inaccurate assumptions, OPTEMPO, organizational climate, individual personality

Factors Impacting Performance

$$P = (A+S+K)*ME$$

Ability

- Physical
- Reasoning
- Language

Skills

- Motor
- Verbal
- Cognitive

Performance

- Interests
- Attitude & feelings
- General drive
- Specific hot buttons

Motivation/ Emotion

- Academic
- Experiences
- Observations

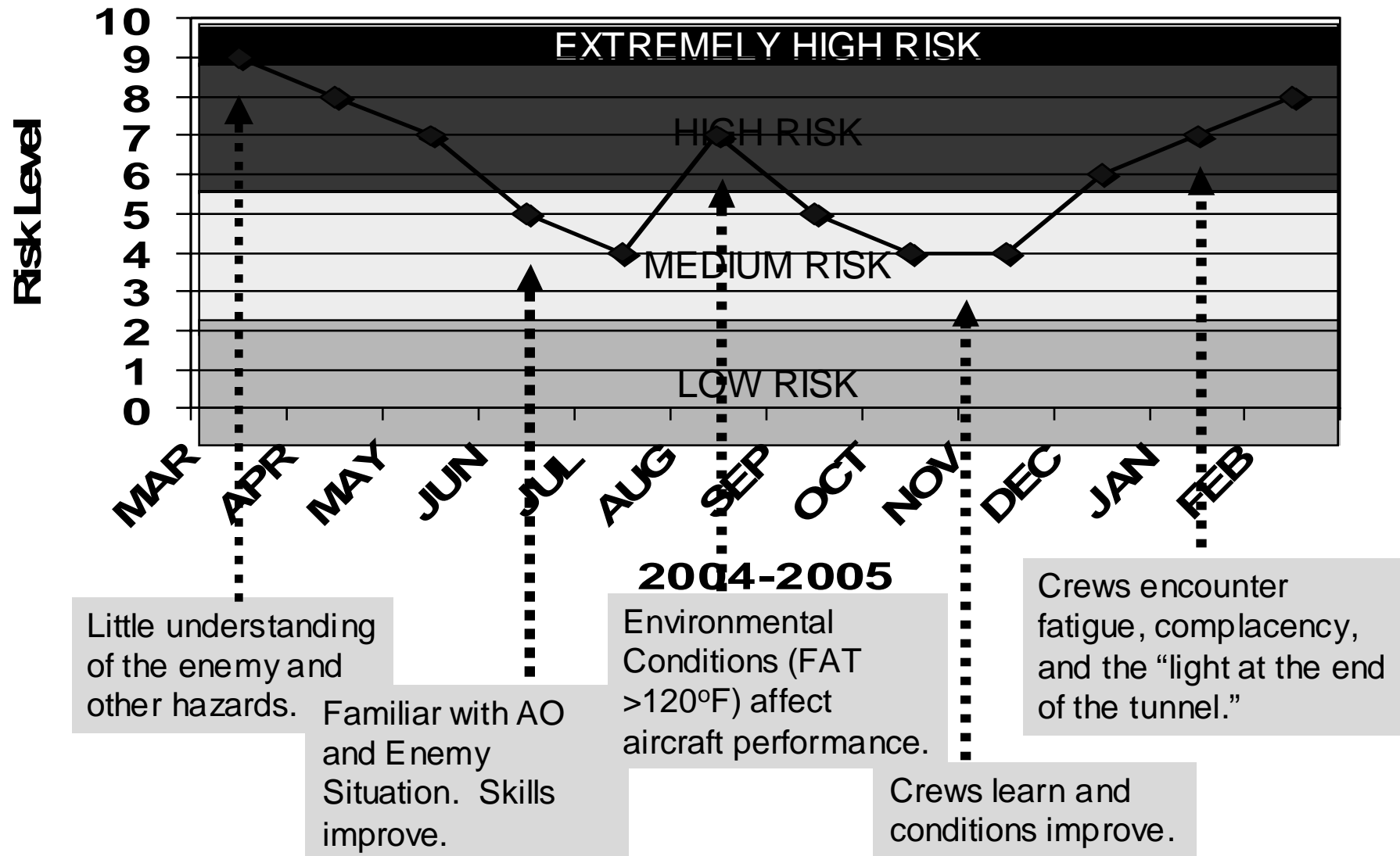
Knowledge

Transformed Actions

- Risk assessment (probability x severity) expands
 - Statistics & stories give a REALITY check
 - Personal experience provides judgment
 - Realize that things under one's control are perceived as less probable & less severe
 - Consider interactions: cumulative effects, time effects, sequencing, synergy
 - A worksheet is only a tool, not a set solution
 - Do assessments HOLISTICALLY (not segmented)
 - Assess risks even when there's no worksheet

RISK MITIGATION

The Life Cycle of a Deployment to OIF



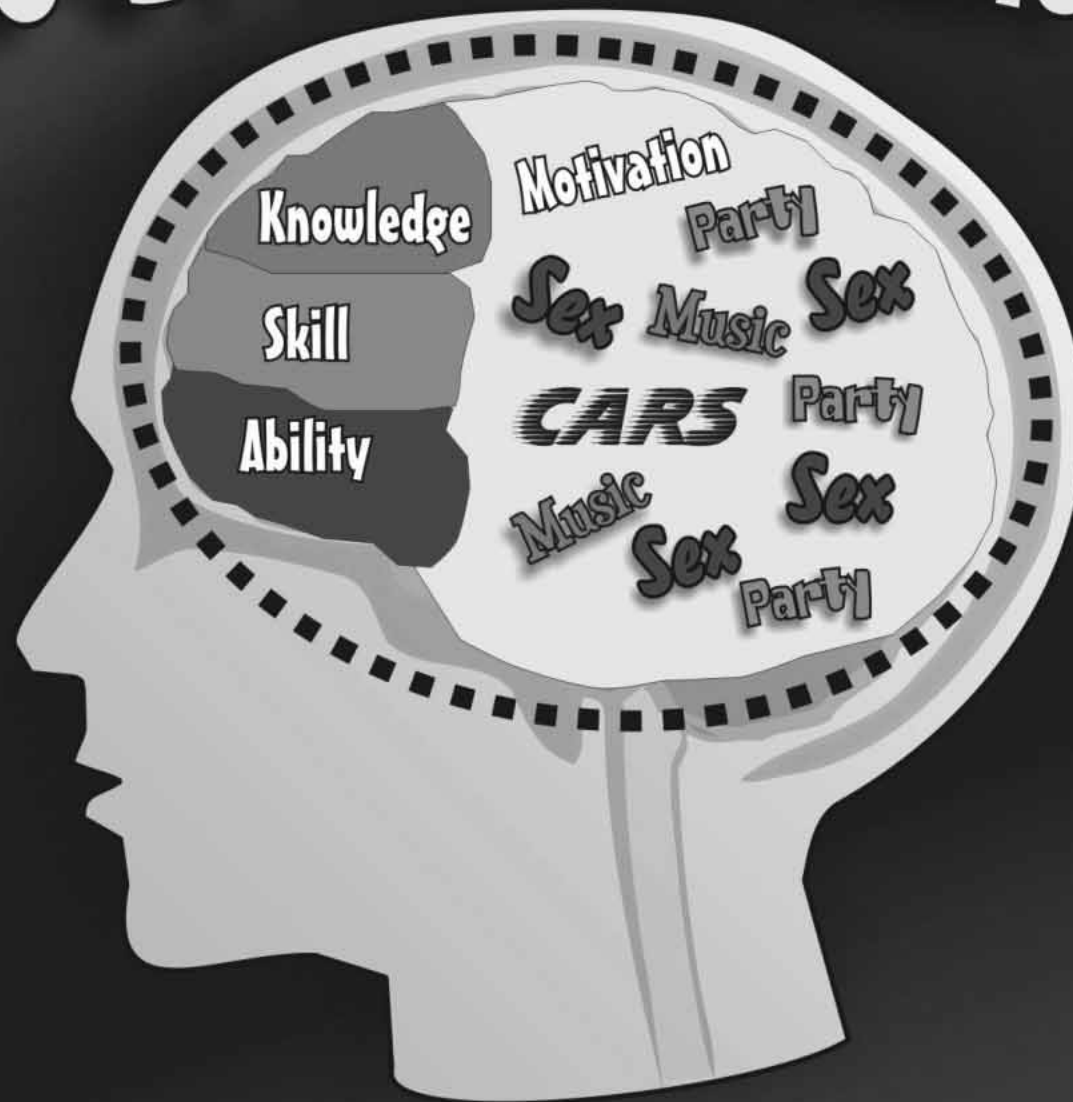
The Score:

- Gravity: 1 AH-64D Destroyed; 2 OH-58D Destroyed (2 FataIs)
- Wires: 1 AH-64D Damaged, 1 x OH58 Destroyed (2 FataIs)
- Birds: Multiple Aircraft Damaged
- Kites / Antennae: Multiple Near Misses
- Other Helicopters: Multiple Near Misses
- UAVs: 1 OH-58D Damaged
- Environment: 2 OH-58D Destroyed
- Small Arms: 1 OH-58D Destroyed
- RPG: 1 OH-58D Destroyed
- MANPADs: 1 AH-64D Destroyed (2 KIAs)

Transformed Actions

- Controls & implementation:
DOTMLPF and HFACS
 - O: Mitigate OPTEMPO & HOOAH climate;
use participation for hazard ID & controls
 - T: Train for knowledge & skill deficiencies,
especially in crew/team coordination, decision
making, weapons clearing, driving
 - L: Engaged, involved supervision with focus on
readiness; intrusive leadership for off duty
 - P: People have accidents; know your people &
manage them accordingly

The 18-24 Year Old Male Brain



Transformed Actions

■ Supervise

- Plan being executed? Unfolding as planned?
- What am I learning right now that sheds light on composite risk, readiness, & mission accomplishment?

RISK MITIGATION

The Pilot in Command Manages Risk During the Flight

The Hazards:

- Gravity*
- Wires*
- Birds
- Kites / Antennae*
- Other Helicopters*
- UAVs
- Environment*
- Small Arms
- RPG
- MANPADs

The Controls:

- Airspeed (High/Mid/Low)
- Altitude (High/Mid/Low)
- Flight Maneuvers (Aggressive/Moderate/Subtle)
- ASE
- Hazard Maps (Current Threat and Man Made Hazards)
- Communications
- Crew Coordination (Scanning/Navigation/Flight/etc.)
- Planning
- Professionalism

*always present

Summary

- CRM has a bottom line, readiness thrust
- Consider assets 24/7
- Requires cultural change
 - You're important to the unit
 - Human error is real (HFACS describes much)
 - Transcends regs & compliance orientation
- Holistic look at hazards & risk
 - Threat & accidental
 - Think about combinations
- Controls consider more O, T, L, & P

Back-ups

Belief the guidance is good

*Appropriate & relevant for the individual
Explained why it should be done
Logical; employed facts correctly
Worker sees benefit > cost
(WIIFM?)*

Self-efficacy

*Small steps
"How to" training
Simplicity*

Respect for leaders

*Credible
Sincere
Helpful
Role Model*

Respect for the worker

*Allow them some control over their actions; trust based on past acts
Listen & understand
Provide what they need to succeed
Partnering in plans & decisions*

Buy-in

+

Commitment

=

Safe Behaviors

Perception

*The big picture: staying alive & healthy = desirable quality of life
Heroes & desirable models impact how I view safe behavior
Being safe is MY idea
It CAN happen to me (experience from near misses, stories of others)*

Motivate

*Smart is good! Stupid is bad!
Do it for the team & loved ones
Reinforce correct acts*

Accountability

*Set expectations
Be involved; engage!
Follow up
Consequences (+/-)*